

# Damping of LC Ringing in IC (Integrated Circuit) Power Distribution Systems

## Abstract

A structure and method for damping LC (inductance–capacitance) ringing in integrated circuit (IC) power distribution systems. The structure comprises a resistance electrically connected in parallel with a plurality of electrical switches. The resistance and electrical switches are electrically connected in series with the package and on–chip power distribution circuit. When on–chip switching activity creates a sudden and appreciable change in IC power demand the electrical switches are opened to temporarily increase the resistance in series with the power supply. This serves to dampen the power–distribution LC ringing. Later, the electrical switches are closed to shunt the series resistance and reduce the level of steady–state voltage drop in the power structure.